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10/587,919	08/02/2006	Friedrich Severin Buchler	25045-16	3609
7590 John B Hardaway III Nexsen Pruet P O Box 10107 Greenville, SC 29603				
EXAMINER				
FREEMAN, JOHN D				
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1794				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/587,919

**Applicant(s)**

BUEHLER, FRIEDRICH SEVERIN

**Examiner**

John Freeman

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 27, 30-53 and 55-58 is/are pending in the application.
- 4a) Of the above claim(s) 47-52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27, 30-46, 53 and 55-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date \_\_\_\_\_
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 17 June 2009 has been entered.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 30, 39, and 40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

4. Claim 30 recites "acetylnitrile/butadiene/styrene polymer". The specification does not appear to provide support for this polymer.

5. Claim 39 recites the composite molded article "further comprising at least one transparent plastic containing lubricants joined...to decorative films..." While the specification supports a composite molded article comprising the transparent plastic of the present invention joined to a decorative film, it does not appear to provide support for such a composite article "further" comprising "at least" one unidentified transparent plastic containing lubricant that is also joined to a decorative film.

6. Claim 40 recites "substituted aromatic rings". The specification does not appear to provide support for this language.

***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 27, 30-35, 37-46, 53, and 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buhler (US 2003/0235666) in view of Plachetta et al. (US 4,877,823) or Stendel et al. (US 4,631,231) or Epstein (US 4,174,358), and Lo Giudice et al. (EP 1092747) or Ingersoll (US 3,649,541) or Kato (US 4,908,726) or Kawakami et al. (US 3,850,870) or Ebert et al. (US 6,706,797).

9. Regarding claims 27, 30, 37, and 53:

10. Buhler discloses polyamide molding compounds useful for molded articles [0012]. The molded articles can be used as lenses, i.e. they are clear [0013]. The articles can comprise multiple layers of the polyamide [0051-52].

11. The molding materials comprise lubricants such as paraffin oils [0043-44].

12. Buhler is silent with regard to the amount of lubricant used.

13. Lubricants were well-known additives in the art, however, and the claimed range falls within standard ranges. For example, Plachetta et al. discloses thermoplastic polyamide molding materials having lubricants of not more than 2% by weight (col 7 ln 15-20); Stendel et al. disclose a molded article of polyamide having up to 20% by weight of lubricants (col 2 ln 30-42); and Epstein discloses molded articles of polyamide having up to 1.0% by weight of lubricants (col 8 ln 67-68).

14. It has long been an axiom of United States patent law that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003) ("The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."); *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980) ("[D]iscovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art."); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955) ("[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation."). "Only if the 'results of optimizing a variable' are 'unexpectedly good' can a patent be

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obtained for the claimed critical range." *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (quoting *In re Antonie*, 559 F.2d 618, 620 (CCPA 1977)).

15. At the time of the invention, it would have been obvious to one of ordinary skill in the art to add lubricants to the molding compounds as taught by Buhler to improve the processing properties of the compounds, and further it would have been obvious to arrive at the presently claimed loading range through routine optimization.

16. The references are silent with regard to the use of a tetracosane lubricant.

17. 2,6,10,15,19,23-hexamethyl tetracosane (also called squalane) was a well-known lubricant at the time of the invention, however. For example, Lo Giudice teaches squalane as a "lubricating/detaching" additive for organic polymers [0009], including polyamides [0011]. Lo Giudice uses squalane in amounts from 0.01-50% [0013]. Many other references teach the use of squalane. Ingersoll teaches the use of squalane in a resin (col 10 ln 62-64) in amounts ranging from 0.1-20% (col 7 ln 4-6); and Kato teaches the addition of liquid paraffins and squalane to a composite plastic in amounts from 0.5-2.0% by weight (col 2 ln 35-44). Furthermore, Kawakami teaches the use of squalane as a mold releasing agent in amounts from 0.5-10% (col 4 ln 11-20), as does Ebert in amounts from 1000-4000 ppm (col 7 ln 51-59).

18. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use squalane and paraffin oils as a lubricant in the composite article given it was a well-known lubricant with understood properties to improve the processing properties, including mold release properties, of the compounds of Buhler.

19. Regarding claim 31:

20. The lubricants are added to the plastic pellets (granules) of the molding compounds [0043].

21. Regarding claims 32, 40, 41, and 43-46:

22. The polyamide molding compounds comprises dicarboxylic acids and diamines that are the same compounds as disclosed in the present claims 43-46 [0019-0021].

23. Regarding claim 33:

24. The molded article can be made by methods such as injection molding methods [0048].

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25. Regarding claim 34:

26. The molded articles may further comprise additional layers [0022, 53, 58], such as polarizing sheets. Other layers can be vapor coated to the article [0022].

27. Regarding claim 35:

28. The molded articles can be dyeable hard coated with lacquers applied to the article via a solution, and subsequently cured [0056].

29. Regarding claim 38:

30. The dyeable hardcoat is intrinsically a scratch-proof coating.

31. Regarding claims 39 and 56:

32. The molded articles may comprise additional polyamide (transparent plastic) layers and multiple functional layers, such as polarizing sheets [0022, 53, 58].

33. Regarding claims 42, 57, and 58:

34. The molded article contains impact modifiers, and reinforcing materials [0044]. Impact strength modifiers such as terpolymers of ethylene-glycidyl methacrylate can be used [0044].

35. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buhler (US 2003/0235666) in view of Plachetta et al. (US 4,877,823) or Stendel et al. (US 4,631,231) or Epstein (US 4,174,358), and Lo Giudice et al. (EP 1092747) or Ingersoll (US 3,649,541) or Kato (US 4,908,726) or Kawakami et al. (US 3,850,870) or Ebert et al. (US 6,706,797) as applied to claims 27, 30-35, 37-54, and 56-58 above, and further in view of Kaganowicz (US 4,328,646) or Reed et al. (US 4,927,704).

36. Buhler in view of Plachetta et al. or Stendel et al. or Epstein teaches a composite material having lubricant therein as discussed previously. Buhler teaches other layers can be vapor coated to the article [0022].

37. The references are silent with regard to a silicon hard coat.

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38. Silicon hard coats were well-known in the art for their abrasion resistance properties. For example, Kaganowicz discloses a method of applying inorganic coatings of silicon oxide to plastic substrates via vapor deposition (col 2 ln 30-45), and Reed et al. disclose abrasion-resistant plastic articles vapor coated with silicon materials (claim 1).

39. At the time of the invention, it would have been obvious to one of ordinary skill in the art to apply a vapor-deposited silicon hard coat to the composite material of Buhler to improve the abrasion resistance of the material.

40. Claims 36 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buhler (US 2003/0235666) in view of Plachetta et al. (US 4,877,823) or Stendel et al. (US 4,631,231) or Epstein (US 4,174,358), and Lo Giudice et al. (EP 1092747) or Ingersoll (US 3,649,541) or Kato (US 4,908,726) or Kawakami et al. (US 3,850,870) or Ebert et al. (US 6,706,797) as applied to claims 27, 30-35, 37-54, and 56-58 /above, and further in view of Hu et al. (US 5,298,587).

41. Buhler in view of Plachetta et al. or Stendel et al. or Epstein teaches a composite material having lubricant therein as discussed previously. Buhler teaches other layers can be vapor coated to the article [0022].

42. The references are silent with regard to a silicon hard coat.

43. Silicon hard coats were well-known in the art for their abrasion resistance properties. For example, Hu et al. disclose a method of forming a protective abrasion resistant coating on a substrate via PECVD (col 1 ln 35-37). Hu also discloses the use of sputtering to prepare the surface (col 6 ln 34-42).

44. At the time of the invention, it would have been obvious to one of ordinary skill in the art to sputter a surface and apply a vapor-deposited silicon hard coat to the composite material of Buhler to improve the abrasion resistance of the material.

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**Response to Arguments**

45. Applicant's arguments filed 18 May 2009 have been fully considered but they are not persuasive.
46. As Applicant has presented no new arguments, the examiner reiterates his response from the Advisory Action mailed 2 June 2009. Note too the additional references Lo Giudice, Kawakami, and Ebert have been added to the rejections:

Regarding Ingersoll as applied to Buhler in view of Plachetta, Stendel, or Epstein, Applicant asserts "[e]ven if one of skill in the art did search for a lubricant they would not consider one that functions primarily to avoid aggregation of particles in a polyurethane binder" (p19). The examiner respectfully disagrees. First, it is not clear that Ingersoll uses squalane to prevent aggregate formation. Also, Ingersoll also mentions other desirable properties, such as low coefficients of frictions and long wear life (col 3 ln 33-37), which would be a direct consequence to using a lubricant. Regardless, one of ordinary skill would immediately recognize that a lubricant intrinsically imparts certain desirable properties to polymer, such as improved processing and handling, low surface coefficient of friction, etc. The examiner provides Ingersoll as proof that squalane was a well known lubricant suitable for use in polymers and therefore one of ordinary skill would instantly recognize squalane's suitable use as a lubricant as suggested by Buhler in view of Placetta, Stendel, or Epstein.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Again, one of ordinary skill in the art would recognize the properties of a lubricant such as squalane, and therefore would be motivated to use squalane as the lubricant suggested by Buhler in view of Placetta, Stendel, or Epstein.

In discussing Kato, Applicant states the "present invention is specific to a optical element" (p20). However, the present claims are directed broadly to a "composite molded article".

Applicant submits "[o]ne of skill in the art would have no basis for considering the lubricity of an optical [lens]" (p20). The examiner respectfully disagrees with this assertion for several reasons. First, the examiner does not rely on Applicant's disclosure of an optical lens containing a squalane lubricant therein, i.e. the examiner does not rely on hindsight reasoning as explained. Second, it is not clear why an artisan of ordinary skill would not consider a lubricant in forming a composite containing polyamide, as it can impart desirable properties as explained. Finally, Buhler discloses "spectacles and lenses" made from his disclosure of transparent polyamide molding materials [0013] and further discloses the use of lubricants within the molding materials [0043], which directly contradicts Applicant's assertion.

The examiner maintains the rejections of record.



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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Freeman whose telephone number is (571)270-3469. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Freeman  
Examiner  
Art Unit 1794

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/Callie E. Shosho/  
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